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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,506	11/25/2003	David F. Craddock	POU920030190US1	9007

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CANTOR COLBURN LLP-IBM POUGHKEEPSIE
55 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

EXAMINER

PATEL, KAUSHIKKUMAR M

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/723,506	Applicant(s) CRADDOCK ET AL.	
	Examiner Kaushikkumar Patel	Art Unit 2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-14 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/25/03 3/04/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDSs) submitted on November 25, 2003, March 04, 2004 and March 27, 2006 have considered by the examiner.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.
4. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claims 1, 13 and 14 contains the trademark/trade name "z/Architecture". Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph.

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Also, as per claims 1, 13, and 14 it is not clear from the term "in accordance with the definition of a z/Architecture" what applicant is claiming? The term "definition of the z/Architecture" is not defined anywhere in the specification. Applicant must provide more details about what is claimed in the invention.

Claims 2-12 are also rejected for their dependence on rejected claim 1.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 3, 6-11, and 13-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Bailey et al. (US 6,598,144 B1) (Bailey herein after).

As per claim 1, Bailey teaches a method of managing memory mapped input output operation to an alternate address space (column 1, lines 10-17) comprising:

executing a first instruction directed to a first memory mapped input output alternate address space of a machine associated with a first adapter to allocate a resource associated with said first adapter to a process in accordance with a definition of a z/Architecture (column 4, lines 15-65, and column 7, lines 1-13, taught as a verb process accessing work queue entries and queue pairs as memory mapped I/O address

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regions of the host channel adapter (HCA) assigned by operating system resources. The assigning of memory mapped I/O address space by operating system to HCA inherently teaches instruction execution by operating system kernel to assign adapter resource to consumer verb process);

wherein a selected process issues at least one of a load and store instruction in a problem state of said machine to a selected address location of a selected resource (column 2, line 10-13, column 7, lines 14-21, issues work requests to HCA);

ensuring that said selected resource corresponds with said allocated resource; and determining that said selected process corresponds with said allocated resource (column 4, lines 50-65, and column 6, lines 22-25, taught as each verbs process is prevented from accessing memory mapped I/O regions of HCA that are not assigned to process and address space is uniquely mapped by operating system to each verbs process).

As per claim 3, Bailey teaches that operating system assigns identifier and address space to each of consumer verbs process and registers it in the mapping table (column 7, lines 6-15). Thus Bailey inherently teaches instruction for storing resource.

As per claims 6 and 9, Bailey teaches assigning, ensuring and determining is performed by operating system kernel (supervisory state of machine) (column 4, lines 50-65, and column 6, lines 22-25, teaches assigning and determining and column 5, lines 40-45 teaches identifying a process).

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As per claim 7, Bailey teaches accessing memory mapped I/O address space by consumer verbs process inherently teaches accessing directly adapter resource (column 7, lines 22-27).

As per claim 8, Bailey teaches said first instruction is configured to prohibit said selected process from modification of said resource (column 3, lines 14-17, taught as consumer process is prohibited from improper addressing).

As per claim 10, Bailey teaches translating main-address-space virtual addresses to main-address-space real addresses (column 4, lines 66-67 and column 5, lines 1-17).

As per claim 11, Bailey teaches caching resource context (column 5, lines 64-67).

Claims 13 and 14 are also rejected under same rationales as applied to claim 1 above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bailey et al. (US 6,598,144 B1)

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As per claim 2, Bailey teaches limitations of claim 1 above, but fails to teach freeing up an allocated resource. Bailey teaches allocating resources and repeating of allocating new entry for each new process (column 7, lines 1-14). It would have obvious to one having ordinary skill in the art at the time of the invention to free up allocated resource to assign it to another process because at some point in time system will ^{be} out of resources if allocated resources are not freed.

As per claim 12, Bailey fails to teach caching memory contents. Bailey teaches caching of resource contexts (column 5, lines 64-65). Bailey inherently teaches channel adapter with cache and it would have been obvious to one having ordinary skill in the art at the time of the invention to cache memory contents also thereby increasing access time of the memory contents.

Allowable Subject Matter

10. Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per claims 4 and 5, prior art of record fails to teach modifying instruction to modify previously allocated resource to reallocate the resource without freeing it and disable memory region to reassign it to another process.

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Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaushikkumar Patel whose telephone number is 571-272-5536. The examiner can normally be reached on 8.00 am - 4.30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 571-272-4210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


kmp

Kaushikkumar Patel
Examiner
Art Unit 2188


3/31/06

MANO PADMANABHAN
SUPERVISORY PATENT EXAMINER